Day 300 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 2p when p = 9.

2p means 2 × p
2 × 9 = 18
Answer: 18

2 Halves, quarters and thirds

Write down a quarter of 88.

Halve, then halve again: 44, then 22
Answer: 22

3 Angles in a triangle

The diagram shows a triangle.
Work out the size of angle p.
The diagram is not drawn accurately.

Angles in a triangle add up to 180°
The square corner is 90°
35 + 90 = 125
180 − 125 = 55
Answer: p = 55°

4 Ordering negative numbers

Write these numbers in order, starting with the smallest.
−1, 1, 5, −8, −3

Use a number line: negative numbers are smaller the further they are from 0
Answer: −8, −3, −1, 1, 5

5 Translating a point

The point A has coordinates (3, 0).
A is moved 1 left and 2 up.
Write down the coordinates of the new point.

x-coordinate: 3 − 1 = 2
y-coordinate: 0 + 2 = 2
Answer: (2, 2)

6 Special sequences

Here are the first four terms of a sequence.
2, 6, 18, 54
Write down the next term.

Each term is 3 times the one before
54 × 3 = 162
Answer: 162

7 Ratio, finding the other part

In a box of beads, the ratio of red to blue is 3 : 5.
There are 18 red.
Work out the number of blue.

18 ÷ 3 = 6 for each part
5 × 6 = 30
Answer: 30

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8 Sequences

Here are the first four terms of a sequence.
5, 13, 21, 29
Is 90 a term in this sequence?
You must show your working.

The terms go up by 8 each time
Continue the sequence: 5, 13, 21, 29, 37, 45, 53, 61, 69, 77, 85, 93
90 is not in the list
Answer: No

9 Angles in a quadrilateral

The diagram shows a quadrilateral.
Work out the size of angle b.
The diagram is not drawn accurately.

Angles in a quadrilateral add up to 360°
95 + 75 + 105 = 275
360 − 275 = 85
Answer: b = 85°

10 Best buys

Yoghurts are sold in two packs.
Pack A has 10 and costs £1.50.
Pack B has 3 and costs 60p.
Which pack is better value?

Pack A: 150p ÷ 10 = 15p each
Pack B: 60p ÷ 3 = 20p each
Pack A is cheaper per item
Answer: Pack A